6CG8-A

6CG8-A

TRIODE-PENTODE CONVERTER

9-PIN MINIATURE TYPE

Intended for use in equipment having series heater-string arrangement

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.45	amp
Warm-up time (Average)	11	sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances:

	Without External Shield	*With External Shield*°	
Triode Unit:			
Grid to plate	1.5	1.5	μμf
Grid to cathode & pentode grid No.3, and heater	2.6	3	μμf
Plate to cathode & pentode grid No.3, and heater	0.05	1	μμf
Pentode Unit:			
Grid No.1 to plate	0.03 max.	0.016 max.	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	4.8	5	μμf
Plate to cathode & grid No.3, grid No.2, and heater	0.9	1.6	μμf
Pentode grid No.1 to triode plate	0.05 max.	0.04 max.	μμf
Pentode plate to triode plate	0.05 max.	0.007 max.	μμf
Heater to cathode	5.5	5.5•	μμf

Characteristics:

	Triode Unit	*Pentode Unit*	
Plate-Supply Voltage	100	250	volts
Grid-No.2 Supply Voltage	–	150	volts
Cathode Resistor	100	200	ohms
Amplification Factor	40	–	
Plate Resistance (Approx.)	5900	750000	ohms
Transconductance	5800	4600	μmhos
Plate Current	8.5	7.7	ma
Grid-No.2 Current	–	1.6	ma
Grid-No.1 Voltage (Approx.) for plate current of 10 μamp.	-10	-10	volts

° With external shield JETEC No.315 connected to cathode except as noted.
• With external shield JETEC No.315 connected to ground.

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6CG8-A

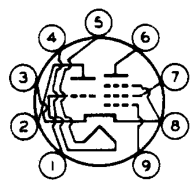
6CG8-A

TRIODE-PENTODE CONVERTER

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Maximum Diameter	7/8"
Dimensional Outline	*See General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9GF

Pin 1 - Triode Grid
Pin 2 - Triode Plate
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate



Pin 7 - Pentode Grid No.2
Pin 8 - Pentode Grid No.3, Cathode
Pin 9 - Pentode Grid No.1

CONVERTER SERVICE

Maximum Ratings, *Design-Center Values:*

	Triode Unit as Osc.		*Pentode Unit as Mixer*		
PLATE VOLTAGE	250	max.	250	max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	-		250	max.	volts
GRID-No.2 VOLTAGE	-		*See Grid-No.2 Input Rating Chart at front of Receiving Tube Section*		
GRID-No.1 (CONTROL-GRID) VOLTAGE:					
Negative bias value	40	max.	40	max.	volts
Positive bias value	0	max.	0	max.	volts
PLATE DISSIPATION	1.5	max.	2	max.	watts
GRID-No.2 INPUT:					
For grid-No.2 voltages up to 125 volts	-		0.5	max.	watt
For grid-No.2 voltages between 125 and 250 volts	-		*See Grid-No.2 Input Rating Chart at front of Receiving Tube Section*		
GRID-No.1 INPUT	0.5	max.	-		watt
PEAK HEATER-CATHODE VOLTAGE:					
Heater negative with respect to cathode	200	max.	200	max.	volts
Heater positive with respect to cathode	200▲	max.	200▲	max.	volts

▲ The dc component must not exceed 100 volts.

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6CG8-A

TRIODE-PENTODE CONVERTER

Typical Operation:

	Triode Unit as 250-Mc Osc.●	*Pentode Unit as Mixer**	
Plate Voltage	150	150	volts
Grid-No.2 Voltage	-	150	volts
Mixer Grid-No.1 Supply Voltage	-	-3.5	volts
Oscillator Voltage (rms) at mixer grid No.1	-	2.6	volts
Mixer Grid-No.1-Circuit Resistance	-	120000	ohms
Oscillator Grid Resistor	2700	-	ohms
Conversion Transconductance	-	2100	μmhos
Plate Current	13	6.2	ma
Grid-No.2 Current	-	1.8	ma
Grid Current	3.6	-	ma
Grid-No.1 Current	-	2	μamp
Oscillator Power Output (Approx.)	0.5	-	watt

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

● In TV or FM receivers, it is generally desirable to operate the oscillator with less power input than shown in the tabulated data in order to avoid over-excitation and excessive oscillator radiation.

* With separate excitation and triode unit connected to ground.

Curves shown under Type 6X8 also apply to the 6CG8-A

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY